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Mylonchulus sessus n.sp. (Nematoda: Mononchida) from Brunei

Durdana S. JAIRAJPURI

Commonwealth Institute of Parasitology, 395A Hatfield Road, St. Albans, Herts AL4 0XU, England

Summary

Mylonchulus sessus n.sp. is described. It is close to *M. sigmaturus* and *M. dentatus* and was found in soil from around tomato from Brunei. It has an exceptionally well developed and differentiated female reproductive system which is rather unusual in *Mylonchulus* and, although close to *M. sigmaturus* and *M. dentatus* differs from both in having wider amphids and smaller submedian teeth.

Mylonchulus sessus n.sp. (Fig. 1)

Dimensions

Paratype female: L = 1.55 mm; a = 36; b = 3.5; c = 47; c' = 0.9; V = 63; G₁ = 11; G₂ = 14.

Fourth-stage female juvenile: L = 1.15 mm; a = 38; b = 3.2; c = 46; c' = 1.0.

Holotype female: L = 1.38 mm; a = 34; b = 3.6; c = 55; c' = 0.9; V = 65; G₁ = 14; G₂ = 13.

Paratype male: L = 1.35 mm; a = 40; b = 3.6; c = 37; T = 40; c' = 1.2.

Description

Female: On fixation, body almost straight anteriorly but posterior half strongly curved ventrally, tapering slightly towards extremities. Cuticle smooth, 1-3 μm thick. Lateral chords one quarter to one third midbody width wide. Lip region 24-25 μm wide, 8-9 μm high, distinctly wider than the adjoining body. Lips conoid, labial papillae well

developed. Amphids fairly large, 5-6 μm wide or about one third of the width of buccal cavity, opposite the apex of the dorsal tooth or 10-11 μm from anterior end of body, 18-21 μm from the base of buccal cavity. Buccal cavity 24-26 μm long, 14-16 μm wide. Dorsal tooth massive, its apex 19-22 μm or 79-85% of the length of buccal cavity from base. Subventral transverse rows of denticles 7 or 8, anterior row prominent and regularly arranged, posterior ones smaller and irregular in arrangement. Submedian teeth present, but very small. A pair of foramina present at base of buccal cavity. Oesophageal lumen nearly one third of the corresponding width of oesophagus. Nerve ring 107-122 μm from anterior end of body. Oesophageal glands obscure. Oesophago-intestinal junction non-tuberculate. Intestinal lumen narrow. Caudal glands prominent, grouped, opening terminally.

Reproductive system amphidelphic. Vulva transverse with small cuticularized pieces. Ventral papillae in vulval region faintly developed, one or two pre-vulval and two or three post-vulval. Vagina short, uterus and oviduct well differentiated. Each genital branch consists of a reflexed ovary with 8-10 oocytes, an oviduct with a narrow distal and an enlarged proximal part in which a well developed sphincter is almost entirely embedded and a uterus, the distal part of which is convoluted and leads to a muscular part. Sperms present in the genital tract. Rectum 29-30 μm or about one anal body width long. Tail 25-33 μm long, slightly less than one anal body width.

Male: Sperms spindle-shaped, 5-6 μm long, spicules 48 μm long medially, gubernaculum bifid

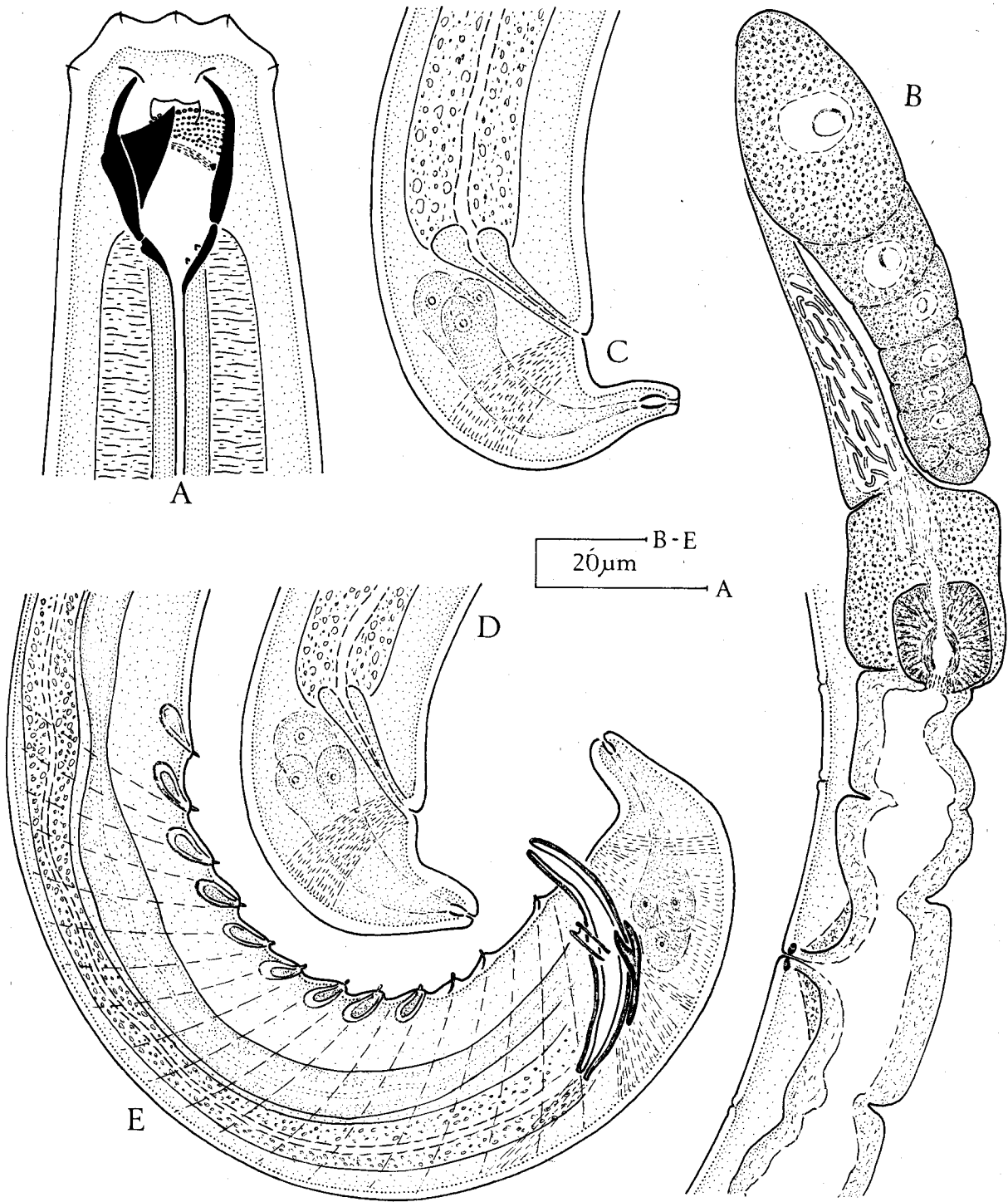


Fig. 1. *Mylonchulus sessus* n.sp. A. Female, anterior extremity; B. Female, reproductive system; C & D. Female tails; E. Male, posterior extremity.

distally 17 μm , and lateral accessory pieces 8 μm long. One adanal and 11 ventromedian supplements, each of the last 9 supplements provided with a sac-like glandular structure. Tail 36 μm or one anal body width long.

Habitat and type locality: Soil around roots of tomato plants from Brunei.

Type specimens: Holotype female and the juvenile female and the paratype male deposited in the Commonwealth Institute of Parasitology, St. Albans. A single paratype female deposited in the Nematology Department, Rothamsted Experimental Station, Harpenden, UK.

Differential diagnosis

In the key to species of *Mylonchulus* as given by Khan & Jairajpuri (1979), *Mylonchulus sessus* n.sp. comes close to *Mylonchulus sigmaturus* (Cobb, 1917) Altherr, 1953 and *M. dentatus* Jairajpuri, 1970. From the former it differs in having a smaller body, more massive dorsal tooth, wider and more anteriorly placed amphids, smaller submedian teeth and well differentiated female reproductive system, and in the presence of vulval papillae and the nature

of the caudal glands. From *M. dentatus* it can be differentiated on the basis of its large amphids, smaller submedian teeth, well differentiated female reproductive system and less prominent vulval papillae, and in having a smaller tail and the presence of males.

Acknowledgements

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Reference

- Khan, W.U. & Jairajpuri, M.S. (1979) Studies on Mononchida of India XII. Genus *Mylonchulus* (Cobb, 1916) Altherr, 1953 with descriptions of three New species. *Nematologica*, **25**, 406-418.

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A Guide to Parasite Collections of the World. 79 pp.

As most parasite systematists know, it is often difficult and sometimes impossible to locate type material. Because of the increasing concern about the serious problems this situation causes, it was agreed at the Fourth International Congress of Parasitology held in Warsaw in 1978, that an attempt should be made to find a solution. A committee was formed, the members being J. Ralph Lichtenfels, Sheila Willmott, Vytautas L. Kontrimavichus, Mary Hanson Pritchard and Claude Vaucher, and questionnaires were circulated to museums, research institutes, university departments and, in some cases, individuals. The replies received over a four-year period were edited by Dr. Lichtenfels and Dr. Pritchard and form the basis of the Guide. Collections are arranged alphabetically by country and city and there is an index to parasite groups, names of collectors, curators and individuals, and to expeditions, ships or institutions associated with the collections.

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Corrigenda

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p. 6, left-hand column, lines 1 to 13 of text should read as follows:

and is evidently the way in which the long, white, cylindrical body is transformed to the wrinkled cyst.

The occurrence of larval cestodes resembling proceroids within the gill arches and the positive correlation between the number of parasites and fish size indicate that adult fish were continuing to pick up infection. Adult *S. commersoni* are predatory fishes feeding almost solely on medium sized teleosts (Hu, 1973). If one of these is the source of infection, *G. branchi* may have a life-cycle similar to that described by Nakajima & Egusa (1969) for *Callitetrarhynchus gracilis*.

pp. 7, 59, 69 and 89 – in postal code of authors' addresses *for* ALH OXU *read* AL4 OXU